

ABSTRACT

A network analyzer is capable of measuring the antenna return loss in a live cellular network. The network analyzer receives and analyzes the base station transmitted signal to determine which transmit frequencies are active. Based on information relating to the correlation between the transmit frequency and the associated receive frequency, the network analyzer determines the active receive frequencies. An unmodulated source that avoids inclusion of the active receive frequencies is generated by the network analyzer. To fill in the antenna sweep with the previously avoided frequencies, the network analyzer generates another source containing only those avoided frequencies when no calls are active on the avoided frequencies. Alternatively, the antenna return loss on the avoided frequencies is interpolated from the measured frequencies. As a further alternative, the network analyzer receiver determines a nearby frequency to an active frequency, and adaptively measures the nearby frequency as the avoided (active) frequency.